



**ENVIRONMENTAL  
RESTORATION, LLC**

**ERRS REGION 8, CONTRACT EPS8 1302  
SITE HEALTH AND SAFETY PLAN  
GOLD KING SITE**

# **Final SITE HEALTH AND SAFETY PLAN**

## **EMERGENCY AND RAPID RESPONSE SERVICES**

**Gold King Site  
Silverton, CO**

Prepared for

**U.S. Environmental Protection Agency - Region 8  
1595 Wynkoop St.  
Denver, CO 80202-1129**

**Contract No.: EP-S8 1302  
Task Order: 051  
Project No: GK8-51**

**SEPTEMBER 04, 2013**



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## Final SITE HEALTH AND SAFETY PLAN

### EMERGENCY AND RAPID RESPONSE SERVICES

#### Gold King Site Silverton, CO

I hereby certify that the enclosed Site Health and Safety Plan, shown and marked in this submittal, has been prepared in accordance with OSHA 29 CFR 1910 and is proposed to be incorporated with Contract No.: EP-S-08-02 Task Order 10. This Site Health and Safety Plan is submitted for Government review and acceptance.

**Plan Preparer:**

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Response Manager		

**Plan Approval:**

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USEPA Region 8		



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## **GLOSSARY OF ACRONYMS**

<b>AHA</b>	Activity Hazard Analysis
<b>ANSI</b>	American National Standards Institute
<b>COC</b>	contaminant of concern
<b>CFR</b>	Code of Federal Regulations
<b>CIH</b>	Certified Industrial Hygienist
<b>CPR</b>	Cardiopulmonary Resuscitation
<b>CRZ</b>	Contamination Reduction Zone
<b>CSP</b>	Certified Safety Professional
<b>dBA</b>	decibel A-weighted
<b>DEET</b>	N, N-diethyl-m-toluamide
<b>EMR</b>	experience modification rate
<b>EMT</b>	emergency medical technician
<b>ERRS</b>	Emergency and Rapid Response Services
<b>USEPA</b>	United States Environmental Protection Agency
<b>EZ</b>	Exclusion Zone
<b>HASP</b>	Site Health and Safety Plan
<b>HAZWOPER</b>	Hazardous Waste Operation and Emergency Response
<b>HIPO</b>	high loss potential
<b>HMIS</b>	Hazardous Materials Identification System
<b>HSO</b>	Site Health and Safety Officer
<b>HTRW</b>	hazardous, toxic and radioactive waste
<b>IDLH</b>	immediately dangerous to life and health
<b>kV</b>	kilovolt
<b>MCL</b>	Maximum Contaminant Level
<b>µg/kg</b>	micrograms per kilogram
<b>mg/kg</b>	milligrams per kilogram
<b>mg/m<sup>3</sup></b>	milligrams per cubic meter
<b>MSDS</b>	Material Safety Data Sheet
<b>NFPA</b>	National Fire Prevention Association
<b>NIOSH</b>	National Institute of Occupational, Safety and Health
<b>NPL</b>	National Priority List
<b>O&amp;M</b>	Operations and Maintenance
<b>OSHA</b>	Occupational Safety and Health Administration
<b>PM</b>	Project Manager
<b>POL</b>	petroleum, oils, and lubricants
<b>PPE</b>	personal protective equipment
<b>RAWP</b>	Removal Action Work Plan
<b>RIR</b>	recordable incident rate
<b>SCBA</b>	self-contained breathing apparatus
<b>SOP</b>	Standard Operating Procedure
<b>SOW</b>	Scope of Work
<b>START</b>	Superfund Technical Assistance and Response Team
<b>WNV</b>	West Nile Virus



## 1.0 INTRODUCTION AND SITE ENTRY REQUIREMENTS

This document describes the health and safety guidelines developed for the Gold King Mine Site, to protect on-site personnel, visitors, and the public from physical harm and exposure to hazardous materials or wastes. The procedures and guidelines contained herein were based upon the best available information at the time of the plan's preparation. Specific requirements will be revised when new information is received or conditions change. A written amendment will document all changes made to the plan. Any amendments to this plan will be included in Attachment A. Where appropriate, specific OSHA standards or other guidance will be cited and applied.

All work practices and procedures implemented on site must be designated to minimize worker contact with hazardous materials and to reduce the possibility of physical injury. All work will be performed in accordance with applicable Federal 29CFR 1910 and 1926 Health and Safety Regulations and the Federal 29CFR 1910.120 Hazardous Waste Site Safety Regulations.

### 1.1 Daily Safety Meetings

Daily safety meetings will be held at the start of each shift to ensure that all personnel understand site conditions and operating procedures, to ensure that personal protective equipment is being used correctly and to address worker health and safety concerns.

### 1.2 Site Specific Training and Acknowledgement

The Response Manager shall be responsible for informing all individuals assigned to this project of the contents of this plan and ensuring that each person signs the Site Specific Training Record in Attachment Z. By signing the Site Specific Training Record, individuals acknowledge receipt of this training and that they recognize the potential hazards present on-site and the policies and procedures required to reduce the risk of exposure or adverse effects associated with these hazards.

### 1.3 Key Personnel

Project No./Task Order No.: RB8-10 Gold King Site	
Key Personnel	
Names and Titles	Contact Information
Steve Way – USEPA R8 OSC	(303) 886-1640 (Mobile) Email: <a href="mailto:way.steven@epa.gov">way.steven@epa.gov</a>
Matt Francis– ER Response Manager	303 994 6611 (Mobile) Email: <a href="mailto:m.francis@erllc.com">m.francis@erllc.com</a>
Matt Francis– ER Site Health and Safety Officer	303 994 6611 (Mobile) Email: <a href="mailto:m.francis@erllc.com">m.francis@erllc.com</a>
Lonnie R. Wright – ER Project HS Manager	(636) 680-2422 (Office) (636) 262-0862 (Mobile) Email: <a href="mailto:l.wright@erllc.com">l.wright@erllc.com</a>
Subcontractors	
Company	Scope of Services
Harrison Western COnstruction	Underground construction
Rain for Rent	Water Treatment System setup/tear down



## **2.0 ROLES AND RESPONSIBILITIES**

### **2.1 Response Manager (RM): Matt Francis**

The Response Manager, as the field representative for ER and its subcontractors, has the responsibility for fulfilling the terms of the contract. The RM must oversee the project and ensure that all technical, regulatory and safety requirements are met. The Response Manager is the onsite Health and Safety Officer (HSO) when the HSO is not on site. The Response Manager is responsible for the duties listed in Section 2.2.

### **2.2 Site Health and Safety Officer (HSO): Matt Francis**

The ER Site Safety Officer will be assigned to the site on a full-time basis with functional responsibility for implementing the Site Health and Safety Plan as ER applies to ER personnel.

Specific Duties Include:

- a. Assist RM in providing a safe and healthful work environment.
- b. Assist RM in reporting and investigating all incidents.
- c. Ensure proper decontamination of personnel and equipment is accomplished.
- d. Ensure that air monitoring equipment is calibrated and operational.
- e. Conduct personal air monitoring as required.
- f. Perform respirator fit tests, as necessary.
- g. Inventory and inspect PPE prior to personnel entries into exclusion zone.
- h. Prepare summary letter of personal air sampling results as necessary.
- i. Ensure proper personal protective equipment is being utilized.
- j. Assist RM in obtaining required personnel training and medical records.
- k. Inspect first aid kits and fire extinguishers.

### **2.3 Other:**

Any persons who observe safety problems should immediately report observations/concerns to appropriate key personnel listed in Section 2.1 or 2.2 above.

SUBCONTRACTORS			
COMPANY NAME	HARRISON WESTERN CONSTRUCTION		
CONTACT NAME	BOB HEETER		
PHONE	775 340 1776		
ADDRESS	QUAIL STREET, LAKEWOOD CO		
SCOPE OF WORK	PORTAL CONSTRUCTION AND UNDERGROUND SUPPORT		
TRAINING REQUIRED? (CHECK ONE)	X Yes	No	MSHA
CONTRACTOR PREQUALIFIED?	Yes	XNo	

## **3.0 SITE BACKGROUND AND SCOPE OF WORK**

### **3.1 Site Background**



The Gold King site is an inactive mining site located near Silverton CO in the Gladstone area. The site consists of an adit with a constant flow of water at approximately 100gpm. The State of CO Division of Mining and Reclamation Services (DRMS) geologists need to investigate the adit to determine if it is hydraulically connected to the Red and Bonita mine.

USEPA R8 is supporting the investigation by installing a portal and ground support as necessary and treating the water to remove solids disturbed during the entry process. ER has installed a settling pond and piping for this effort. The current effort will involve installation the water treatments system and additional piping. ER has subcontracted Harrison Western to provide experienced underground mine workers to construct the portal and evaluate underground conditions to determine if additional ground support is necessary.

### 3.2 Scope of Work

- Provide Work Plan and Health & Safety Plan (HASP), prior to commencement of work on-site.
- Provide for site operations as follows:
  - Mobilize personnel and equipment
  - Establish site controls corresponding to the design report
  - Create work space for treatment system and subcontractors equipment
  - Run-on and run-off drainage controls: Prepared for all work areas.
  - Provide ventilation for underground investigation
  - Treat water to remove suspended solids

### 4.0 HAZARD ASSESSMENT

This section is to be addressed in the daily tool box safety meeting as each task is to be initiated. Each Activity Hazard Analysis is designed to develop awareness to chemical and physical hazards specific to each task. It would be impractical to repeat in complete detail each control measure and SOP for each job task. Sources, Hazards and Control Measures will be addressed for each job task.

Specific work tasks with unique hazards and/or PPE requirements must be evaluated or reevaluated prior to beginning work. This task review will be led by the Project Health and Safety Manager and the HSO, and will include knowledgeable individuals such as the worker(s) and the supervisor. PPE requirements, based on this assessment, will be included in Section 6 of the HASP or in the AHA for the specific task. All workers must be trained in the requirements of the HASP and the applicable AHAs prior to beginning work. The required PPE may be changed by the HSO, based on the results of additional air monitoring, or on task-specific needs. Downgrades will require the approval of the Project Health and Safety Manager unless otherwise permissible by the HASP.

The following section outlines the AHAs, Referenced Standard Operations Procedures (SOPs) and Chemical Hazards associated with this project. Applicable SOPs are available from ER's Health and Safety Database. AHAs will be developed for each of the SOW activities listed in Section 3.2 and submitted prior to the start of field work. The AHAs should be revised for site-specific activities and review with the work crew before commencing any activity.

The following table lists ER health and safety SOPs that are applicable to this project.

<b>Referenced SOPs:</b>	
ER SOPs applicable to this project or task order:	
HS-02 Blood Borne Pathogens Exposure Control Plan	HS-17 Heat Stress Safety
HS-04 Flammable Liquid Transfer (Bonding and Grounding)	HS-18 Heavy Equipment Operation
HS-05 Cold Stress Safety	HS-24 Personal Protective Equipment
HS-08 Decontamination Measures	HS-36 Proper Lifting Techniques
HS-10 Motor Vehicle Operation	HS-49 Tool Safety and Inspection
HS-12 Electrical Safety	HS-50 First Aid
HS-13 Excavation and Trenching Operations	HS-51 Incident Reporting and Investigation
HS-15 Hazard Communication	HS-52 General Waste Management





HS-16 Hearing Conservation		HS-53 Spill Prevention Response	
UXO known or suspected to present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		UXO support and plans provided Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Lifts Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Items to be lifted: filter bags		Critical <input type="checkbox"/> Ordinary X	
Excavations Yes No X			

#### 4.1 Chemical Hazards

Site Contaminants/Chemicals of Concern					
Chemical	Media	PEL (ppm)	TLV (mg/m3)	Route of Entry	Symptoms Acute/Chronic
As	Soil	0.5	.01	Ingestion, inhalation, adsorption	Convulsions, coma, death, mucous membrane irritation, cancer, burning lips, throat constriction, vomiting, diarrhea, dysphagia, abdominal pain
Pb	Soil	50	50	Ingestion, inhalation, adsorption	Insomnia, delirium, headache, memory loss, abdominal pain, nausea, diarrhea, constipation, muscle pain
Cd	Soil	.005	.01	Ingestion, inhalation, adsorption	Nausea, vomiting, abdominal pain, diarrhea, chest pain

The above listing should not be taken as a complete assessment of the hazards posed by materials at the Gold King Site. Therefore, personnel must be alert for symptoms of possible exposure such as unusual smells, stinging, burning eyes, nose and throat, skin irritation, as well as feeling extremely well, depressed, sleepy or tired. Symptoms must be immediately reported to the site supervisor.

#### 4.2 Task Specific Hazards and Controls

Task Specific Safety Assessment		
Job Task: Mobilization & Demobilization		
Personal Protective Equipment: Level D		
Hazard	Sources	Control Measures
Struck by/caught between	Vehicle & Equipment Operation/Traffic	<ul style="list-style-type: none"><li>- Follow HS-10 Motor Vehicle Operation</li><li>- Follow HS-18 Heavy Equipment Operation</li><li>- Only qualified drivers permitted to operate vehicles</li><li>- Wear ANSI Type 2 high-visibility safety vest</li><li>- Back up alarms functional and loud enough to hear over surroundings</li><li>- Wear seat belts while in operation</li></ul>
Ergonomics	Lifting and bending	<ul style="list-style-type: none"><li>- Follow HS-36 Proper Lifting Techniques</li><li>- Buddy system/Proper lifting techniques</li><li>- No individual lifting over 40 lbs.</li></ul>
Heat/Cold Stress	Seasonal Temperatures/ Excessive heat/cold	<ul style="list-style-type: none"><li>- Cool/Warm break areas</li><li>- Follow ER SOP HS-17</li><li>- Follow ER SOP HS-5</li><li>- Plenty of Fluids &amp; breaks</li><li>- Maintain communication/observation of co-worker</li></ul>
Noise	Hand tools	<ul style="list-style-type: none"><li>- Hearing protection required when operating open-cab equipment</li><li>- Hearing protection required when working near equipment</li></ul>
Fire	Electrical devices/service	<ul style="list-style-type: none"><li>- Fire extinguishers with at least a 3A:40B:C rating shall be placed in when working</li></ul>
Electrocution	Power tools/equipment	<ul style="list-style-type: none"><li>- Inspect all power cords prior to use</li><li>- Use GFCI on all connections</li></ul>



Cuts/Punctures	Sharp Objects – Sheet Metal/ Nails/screws	<ul style="list-style-type: none"><li>- Beware of sharp objects</li><li>- Wear cut resistant gloves</li><li>- Use safety utility knife</li><li>- Always cut away from body</li></ul>
Slip/Trip/Fall	Structure/roof trusses Uneven terrain/debris	<ul style="list-style-type: none"><li>- Keep area organized</li><li>- Identify/mark hazards</li><li>- Remove debris from walking/ working surfaces</li></ul>
Wildlife	Insect/Ticks/spiders/Dogs/Snakes	<ul style="list-style-type: none"><li>- Beware of and Avoid contact,</li><li>- Notify supervisor immediately if stung/bitten</li><li>- Use insect spray per manufacturer recommendations</li></ul>

Task Specific Safety Assessment		
Job Task: Installing/Operating Water Delivery /Treatment System		
Personal Protective Equipment: Level D		
Hazard	Sources	Control Measures
Steep Slope Construction	Mine Dump	<ul style="list-style-type: none"><li>- Ensure slope stability</li><li>- Remove un-stable conditions</li><li>- Limit turn radius to slow and controlled turns</li><li>- Avoid overloading the bucket</li><li>- Provide level footing and support</li><li>- Avoid sliding on slopes</li><li>- Avoid full extension of boomed equipment</li><li>- Keep loads close and balanced w/ counterweight</li><li>- Avoid rocking or tipping of machinery from unbalanced loads</li></ul>
Struck by/caught between	Vehicle & Equipment Operation/Traffic	<ul style="list-style-type: none"><li>- Follow HS-10 Motor Vehicle Operation</li><li>- Follow HS-18 Heavy Equipment Operation</li><li>- Only qualified drivers permitted to operate vehicles</li><li>- Wear ANSI Type 2 high-visibility safety vest</li><li>- Wear seat belts while in operation</li><li>- Back up alarms functional and loud enough to hear over surroundings</li></ul>
Ergonomics	Lifting and bending	<ul style="list-style-type: none"><li>- Follow HS-36 Proper Lifting Techniques</li><li>- Buddy system/Proper lifting techniques</li><li>- No individual lifting over 40 lbs.</li></ul>
Handling NaOH	Chemical Burns	<ul style="list-style-type: none"><li>- Use of proper PPE including chemical resistant gloves, face shields, apron or Saranex suit</li></ul>
Heat/Cold Stress	Seasonal Temperatures/ Excessive heat/cold	<ul style="list-style-type: none"><li>- Cool/Warm break areas</li><li>- Follow ER SOP HS-17</li><li>- Follow ER SOP HS-5</li><li>- Plenty of Fluids &amp; breaks</li><li>- Maintain communication/observation of co-worker</li></ul>
Noise	Hand tools	<ul style="list-style-type: none"><li>- Hearing protection required when operating open-cab equipment</li><li>- Hearing protection required when working near equipment</li></ul>
Fire	Electrical devices/service	<ul style="list-style-type: none"><li>- Fire extinguishers with at least a 3A:40B:C rating shall be placed in when working</li></ul>
Electrocution	Power tools/equipment	<ul style="list-style-type: none"><li>- Inspect all power cords prior to use</li><li>- Use GFCI on all connections</li></ul>
Cuts/Punctures	Sharp Objects – Sheet Metal/ Nails/screws	<ul style="list-style-type: none"><li>- Beware of sharp objects</li><li>- Wear cut resistant gloves</li><li>- Use safety utility knife</li><li>- Always cut away from body</li></ul>
Slip/Trip/Fall	Uneven terrain/debris	<ul style="list-style-type: none"><li>- Stay out of unsafe buildings</li><li>- Keep area organized</li><li>- Identify/mark hazards</li><li>- Remove debris from walking/ working surfaces</li></ul>
Wildlife	Bears/Coyotes	<ul style="list-style-type: none"><li>- Beware of and Avoid contact</li><li>- Secure trash and food waste</li></ul>

#### 4.3 Physical Hazards

Physical/Environmental Hazard Analysis		
Hazard	Pre Planning to Control Hazard	Active Control Measures



Electrical	<ol style="list-style-type: none"><li>1. Locate and mark existing energized lines.</li><li>2. De-energize lines if necessary to perform work safely.</li><li>3. All electrical circuits will be grounded.</li><li>4. All 120 volt single phase which are not a part of the permanent wiring will have a ground-fault interrupter in place.</li><li>5. Temporary wiring will be guarded, buried or isolated by elevation to prevent accidental contact by personnel or equipment.</li><li>6. Evaluate potential for high moisture/standing water areas and define special electrical wiring needs-typically requirement for low voltage lighting systems.</li></ol>	<ol style="list-style-type: none"><li>1. Utilize Qualified Electrical Contractor for any new or temporary electrical construction.</li><li>2. Ensure electrical equipment/material meet all local, state and federal code and specifications</li><li>3. Use GFCI for all power tool usage.</li></ol>
Ergonomic	<ol style="list-style-type: none"><li>1. All operations evaluated for ergonomic impact.</li><li>2. Procedures written to define limits of lifting, pulling, etc.</li><li>3. Procedures to define how personnel will utilize proper ergonomic concepts and utilize mechanical material handling equipment.</li><li>4. Necessary mechanical material handling equipment specified and ordered for project.</li></ol>	<ol style="list-style-type: none"><li>1. Proper body mechanics techniques stressed and enforced on a daily basis.</li><li>2. Mechanical handling equipment maintained and utilized.</li><li>3. Proper body mechanics stressed in scheduled safety meetings.</li><li>4. Injuries reported and medically treated if in doubt about severity.</li><li>5. Operations changed as necessary based on injury experience or potential.</li></ol>
Existing Site Topography	<ol style="list-style-type: none"><li>1. Survey site prior to layout. Identify areas unsafe for personnel or equipment due to physical conditions.</li><li>2. Identify/locate existing utilities.</li><li>3. Determine impact of site operations on surrounding properties, communities, etc.</li><li>4. Identify mechanized equipment routes both on site and onto and off the site.</li><li>5. Layout site into exclusion and contamination reduction zones based on initial site evaluation.</li></ol>	<ol style="list-style-type: none"><li>1. Awareness to work environment - regular inspection/audits to identify changing conditions.</li><li>2. Shut down operations when unknown conditions encountered.</li></ol>
Fires & Explosions	<ol style="list-style-type: none"><li>1. Evaluate all operations for fire and explosion potential.</li><li>2. Define specific procedures for unique operations presenting unusual hazard such as flammable tank demolition.</li><li>3. Ensure that properly trained personnel and specialized equipment is available.</li><li>4. Define requirements for handling and storage of flammable liquids on site, need for hot work permits and procedures to follow in the event of fire or explosion.</li><li>5. Define the type and quantity of fire suppression equipment needed on site.</li><li>6. Coordinate with local fire fighting agencies to discuss unique fire hazards, hazardous materials, etc.</li><li>7. Ensure site operations comply with 29CFR 1910.157G.</li></ol>	<ol style="list-style-type: none"><li>1. Inspect fire suppression equipment on a regular basis.</li><li>2. Store flammables away from oxidizers and corrosives.</li><li>3. Utilize Hot Work Permit for all hot work on-site.</li><li>4. Follow any site specific procedures regarding work around flammables.</li><li>5. Review and practice contingency plans.</li><li>6. Discuss on regular basis at scheduled safety meetings.</li></ol>
Flammable Vapor and Gases	<ol style="list-style-type: none"><li>1. Evaluate site to determine sources of likely flammable gas or vapor generation.</li><li>2. Develop specific procedures to be followed in the event of exposure to flammables.</li><li>3. Specify specialized equipment needs for inerting flammable atmospheres, ventilating spaces and monitoring flammable vapor concentrations.</li><li>4. Define requirements for intrinsically safe equipment.</li><li>5. Develop contingency plan to follow in the event of fire or explosion.</li></ol>	<ol style="list-style-type: none"><li>1. Calibrated monitoring equipment available and utilized by trained personnel whenever working where flammable gas or vapor is present.</li><li>2. Monitoring performed at regular frequency and in all areas where vapor could generate or pool.</li><li>3. Equipment and operations shut down when threshold levels are exceeded.</li><li>4. Contingency plans reviewed regularly by all involved personnel.</li><li>5. Work areas are carefully inspected to look for possible ignition sources. Sources are removed.</li><li>6. Operations shut down if specific task procedures can't be followed to the letter.</li></ol>
Heavy Equipment Operation	<ol style="list-style-type: none"><li>1. Define equipment routes and traffic patterns for site.</li><li>2. Insure that operators are properly trained on equipment operation for all equipment required on project.</li><li>3. Define safety equipment requirements, including back up alarm and roll over, for all equipment on site.</li><li>4. Define equipment routes and traffic patterns for site.</li><li>5. Implement SOP of requiring operators to safety inspect equipment on a daily basis in accordance with manufacturer requirements.</li><li>6. Evaluate project requirements to ensure that equipment of adequate capacity is specified.</li></ol>	<ol style="list-style-type: none"><li>1. Equipment inspected as required.</li><li>2. Equipment repaired or taken out of service.</li><li>3. Ground spotters are assigned to work with equipment operators.</li><li>4. Utilize standard hand signals and communication protocols.</li><li>5. Personnel wear the proper PPE; utilize hearing protection, gloves for handling rigging, etc.</li><li>6. Equipment safety procedures discussed at daily scheduled safety meetings.</li></ol>



		<p>Personnel do not exceed lifting capacities, load limits, etc. for equipment in question.</p> <p>8. Personnel follow basic SOP's which prohibit passengers on equipment, activating brakes and grounding buckets, securing loads prior to movement, etc.</p>
Illumination	<ol style="list-style-type: none"> <li>1. Evaluate all operations and work areas to determine lighting requirements.</li> <li>2. Specify specialized lighting requirements including explosion proof, intrinsically safe, lighting needs.</li> <li>3. Determine if nighttime outdoor operations are necessary.</li> <li>4. Evaluate tasks to be performed and number of light plants necessary to allow operations.</li> <li>5. Ascertain if outdoor lighting from nighttime operations will have an impact on surrounding communities.</li> </ol>	<ol style="list-style-type: none"> <li>1. Inspect specialized equipment and discard or replace as needed.</li> <li>2. Add additional lighting to areas with lighting deficiencies.</li> <li>3. Inspect drop cords and portable lights on regular basis. Replace or repair as necessary.</li> </ol>
Noise	<ol style="list-style-type: none"> <li>1. Local community noise standards examined.</li> <li>2. Expected loud operations evaluated to determine compliance with community standards.</li> <li>3. Loud operations scheduled for approved time periods.</li> <li>4. Noise level standards established for equipment brought onto site.</li> <li>5. Hearing protection requirements defined for personnel expected to have excessive exposures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Personnel receive annual audiogram.</li> <li>2. Personnel required to wear hearing protection.</li> <li>3. Routine noise level monitoring and dosimeter performed.</li> <li>4. Defective equipment repaired as needed.</li> <li>5. Ongoing hearing conservation education promoted at scheduled safety meetings.</li> <li>6. Medical evaluation following noise (impact) exposure if symptoms present themselves.</li> </ol>
Personal Injuries	<ol style="list-style-type: none"> <li>1. Site operations will be evaluated for exposures with serious injury potential such as falling objects, pinch points, flying objects, falls from elevated surfaces, etc.</li> <li>2. A written Fall Prevention Program will be developed if workers will be required to work at heights greater than 6 feet from unguarded work locations.</li> <li>3. PPE requirements will be based on potential for injury.</li> </ol>	<ol style="list-style-type: none"> <li>1. Personnel will wear required PPE.</li> <li>2. Specialized equipment such as rope grabs, winches, etc. will be inspected prior to each use.</li> <li>3. Defective equipment will be immediately replaced.</li> <li>4. All injury and near miss incidents will be reported to the HSO.</li> <li>5. First aid/CPR trained person on site at all times.</li> <li>6. First aid on site.</li> <li>7. Transport for medical care if necessary.</li> </ol>
Small Equipment Usage	<ol style="list-style-type: none"> <li>1. Site operations will be evaluated to determine need for specialized intrinsically safe, explosion-proof and UL approved equipment and instruments.</li> <li>2. Implement requirement for G.F.I., double insulated tool usage, or assured grounding program in all outdoor operations, will be utilized.</li> <li>3. Specify equipment needs to ensure that equipment used only for the purpose for which it is designed and to prevent abuse or misuse of the equipment.</li> <li>4. Specify requirements for the inspections and maintenance of specialized equipment.</li> <li>5. Specify that all equipment utilized on the project meets all OSHA requirements.</li> </ol>	<ol style="list-style-type: none"> <li>1. Inspect each tool prior to each use.</li> <li>2. Ensure all guards are in use and properly positioned.</li> <li>3. Ensure item being worked on is properly braced if necessary.</li> <li>4. Get help when appropriate to hold or brace item being worked on.</li> </ol>



5. Wear cut resistant or other appropriate gloves in addition to level C PPE.

#### Weather Conditions

1. Evaluate prevailing weather conditions for the site.
2. Contingency plans developed for likely severe weather conditions such as tornado, and extreme thunderstorm.
3. Provide for daily weather forecast service in extreme weather areas.
4. Plan to weatherize safety systems, such as showers and eye washes that would be impacted by extreme cold weather.
5. Order necessary specialized cold weather clothing.
6. Grounding and bonding requirements defined for thunderstorm areas.
7. Sheltered air conditioned break areas provided for extreme hot and cold weather zones.
1. Employees trained in contingency plan for severe weather conditions.
2. Emergency water sources inspected regularly in cold areas.
3. Weather service contacted regularly during storm conditions.
4. Supervisory personnel cease operations during extreme storm conditions (i.e., thunderstorms).
5. Personnel evacuate to safe assembly area.

#### Heat Stress

1. Anticipate possible high temperatures (summer months).
2. Be aware of heat stress symptoms, quit sweating, pale, clammy skin, dizziness
1. Cool break area.
2. Drink water.
3. Buddy system/ awareness
4. First aid on site.
5. Medical care if symptoms persist.

#### Cold Stress

1. Anticipate possible low temperatures (winter months).
2. Remember the temperature does not have to be below freezing to have a cold stress situation.
1. Warm break area.
2. Warm decaffeinated drinks.
3. Buddy system/ awareness.
4. First aid on site.
5. Medical care if symptoms persist

## 5.0 TRAINING REQUIREMENTS

This section describes ER's project training requirements and site visitor policy. Training of all personnel shall be in accordance with OSHA 29 CFR 1910.120 and the National Fire Protection Association (NFPA) standards.

### 5.1 Project Training Requirements

The training listed in Table 5-1 will be provided to project participants as noted. All required training will be documented and this documentation maintained onsite.

Project Training Requirements:		
Topic	Description	Personnel
<b>General Training</b>		
Site Safety and Health Plan	Site-specific hazards and control requirements, before commencement of field work. Includes training in proper use and care of PPE.	All project personnel
Activity Hazard Analysis	Activity-specific hazards, controls and training requirements for a specific phase or activity, prior to commencement of activity	Workers, supervisors and oversight personnel engaged in the activity
Daily Safety Briefing	In addition to plan-of-the-day and daily hazard reminders, often used to cover a specific topic; provided refresher training on various issues; or changes in hazards, controls or procedures.	All field workers, supervisors and field oversight personnel
Emergency Action Plan	Roles, responsibilities, recognition of emergency conditions, reporting and notification, evacuation and other procedures.	All project personnel, with detailed information on procedures for workers with special responsibilities
OSHA 40-Hour Hazardous Waste Operation (HAZWOPER) Training	General hazards and controls for hazardous waste activities at remediation sites, prior to performing work in an exclusion zone.	General site workers, supervisors, oversight personnel on HAZWOPER sites
OSHA 8-Hour Supervisor	Managing HAZWOPER work activities	Supervisors and management support staff on HAZWOPER sites
OSHA 8-Hour Refresher	Current annual refresher for HAZWOPER sites.	Workers, supervisors and oversight personnel engaged in the activity
Hazard Communication	Requirements for MSDS, labels; hazards of site materials and controls; location of and access to inventories and MSDS.	All project personnel potentially exposed to hazardous materials



Fire Extinguisher	General education on selection, distribution, and proper use of fire extinguishers.	All project personnel
<b>Special Training</b>		
First aid/ Cardiopulmonary Resuscitation (CPR)	Red Cross, National Safety Council or other authorized course, with current refresher	At least 2 project personnel
Fall Protection	Fall (from elevation) hazards, fall protection techniques, especially proper use of personal fall arrest systems and rescue procedures.	Task-specific, workers exposed to fall hazards.
Lockout/tagout	Site-specific energy control and verification procedures.	Authorized personnel working on de-energized systems, and affected employees whose work may be impacted by a lockout/tagout situation.
Other Heavy Equipment operations	Qualified by Construction Manager, Superintendent or Equipment Supervisor as documented on ER Equipment Operator Qualifications Form	Equipment Operators
Power tools (e.g. chain saws, chippers, powder- actuated tools, compressed air systems)	Hazards and proper use and maintenance as described in operations manual. Powder-operated tool users certified by manufacturer.	Tool users

## 5.2 Visitor Indoctrination Policy

All site visitors will be required to review the daily tailgate safety issues and sign the visitor log. At a minimum, all visitors must be informed of the anticipated hazards and PPE requirements, designated work zones, escort procedures, and emergency procedures.

## 6.0 PERSONAL PROTECTIVE EQUIPMENT

The following is a brief description of the personal protective equipment, which may be required during various phases of the project. The U.S. EPA terminology for protective equipment will be used; Levels A, B, C and D.

Respiratory protective equipment shall be NIOSH-approved and use shall conform to OSHA 29 CFR Part 1910.134 Requirements. Each employer shall maintain a written respirator program detailing selection, use, cleaning, maintenance and storage of respiratory protective equipment. The written Respirator Program will be maintained at the local and regional offices.

### 6.1 Level A Protection Shall Be Used When: (NOT ANTICIPATED)

- The extremely hazardous substance requires the highest level of protection for skin, eyes and the respiratory system;
- Substances with a high degree of hazard to the skin are known or suspected;
- Chemical concentrations are known to be above IDLH levels; or,
- Biological hazards requiring Level A are known or suspected.

### 6.2 Level B Protection Shall Be Used When: (NOT ANTICIPATED)

- The substance(s) has been identified and requires a high level of respiratory protection but less skin protection;
- Concentrations of chemicals in the air are IDLH or above the maximum use limit of an APR with full-face mask;
- Oxygen deficient or potentially oxygen deficient atmospheres (<19.5%) are possible; and/or, Confined space entry may require Level B.
- Incomplete identification of gases and vapors, but not suspected to be harmful to skin or skin absorbable

Level B Protection Equipment at a Minimum Shall Consist of:

Air-supplied Breathing Apparatus

Pressure Demand Full-face



Chemical Resistant/Protective Coveralls  
Inner Gloves  
Outer Gloves  
Safety shoes/Boots  
Hard Hat  
Respiratory Inserts  
Modifications:

Chemical Resistant (Saranex, potential acid suit or equivalent)  
Nitrile or equivalent  
Nitrile or equivalent\*  
Steel Toed/Chemical Resistant  
ANSI approved  
As required  
\*Use cut resistant gloves when handling sharp objects.

6.3 Level C Protection Shall Be Used When: (NOT ANTICIPATED)

- The same level of skin protection as Level B, but a lower level of respiratory protection is required;
- The types of air contaminants have been identified, concentrations measured, and an air-purifying respirator is available that can remove contaminants; or,
- The substance has adequate warning properties and all criteria for the use of APR respirators has been met

Level C Protective Equipment at a Minimum Shall Consist of:

Air Purifying Respirator  
Cartridges (type)  
Chemical Resistant/Protective Coveralls  
Gloves  
Safety shoes/Boots (type)  
Hard Hat  
Respiratory Inserts  
Other (List \_\_\_\_ )  
Modifications:

Full-face  
Organic Vapor/Particulate Combination  
Particulate resistant (i.e. Tyvek or equivalent)  
Cotton or Leather Work Gloves\*  
Steel Toed  
ANSI approved  
As required  
N/A  
\*Use cut resistant gloves when handling sharp objects.

6.4 Mod Level D Protection Shall Be Used When: Handling NaOH

- The atmosphere is demonstrated to be within OSHA permissible limits
- Work functions include splashes, immersion or the potential for unexpected inhalation of, or contact with, hazardous concentrations of harmful chemicals.

Mod Level D Protection Equipment at a Minimum Shall Consist of:

Chemical Resistant/Protective Coveralls  
Safety Shoes/Boots  
Boot Covers (booties)  
Work Gloves  
Hard Hat  
Face Shield  
Safety Glasses  
Modifications:

Particulate resistant (i.e. Pro Shield or equivalent)  
Steel toed/shank work boots  
Latex  
Nitrile inner/Nitrile outer\*  
ANSI approved  
As necessary  
ANSI approved  
\*Use cut resistant gloves when handling sharp objects.

6.5 Level D Protection Shall Be Used When:

- The atmosphere is demonstrated to be below OSHA permissible exposure limits
- Work functions preclude splashes, immersion or the potential for unexpected inhalation of, or contact with, hazardous concentrations of harmful chemicals.

Level D Protection Equipment at a Minimum Shall Consist of:

Standard Work Clothes  
Rain Suit

Long Pants/sleeved shirt  
As required



Safety Shoes/Boots (type)  
Boot Covers (booties)  
Work Gloves  
Hard Hat  
Safety Glasses  
Modifications:

Steel Toed  
During muddy conditions as necessary  
Cotton or leather work gloves\*  
ANSI approved  
ANSI approved  
\*Use cut resistant gloves when handling sharp objects.

#### 6.6 Decisions to Upgrade/Downgrade PPE

All decisions to downgrade from Level B to C or D must be accompanied by air monitoring results. The Regional Safety Managers must be advised of on-site decisions to downgrade. All decisions must be documented with an Addendum to the Plan.

The following conditions will necessitate reevaluation of PPE use.

- commencement of a new work not previously identified
- change of job tasks during a work phase
- change of season/weather
- contaminants other than those identified in Safety Plan
- change in ambient levels of contaminants
- change in work which affects degree of chemical contact

#### 6.7 Project Personal Equipment Requirements

<b>Project Personal Protective Equipment Requirements:</b>							
<b>Activity</b>	<b>Respiratory Protection</b>	<b>Body Protection</b>	<b>Head Protection</b>	<b>Hand Protection</b>	<b>Eye/Face Protection</b>	<b>Foot Protection</b>	<b>Hearing Protection</b>
Site Mobilization & Demobilization (Level D)	None	Standard Work clothes	ANSI-approved Hard Hat	Leather or cut resistant work gloves	ANSI-approved safety glasses	ANSI-approved safety boots	Plugs or muffs when using power tools
Installation and operation of water treatment system (Level D)	None	Standard Work clothes	ANSI-approved Hard Hat	Leather or cut resistant work gloves	ANSI-approved safety glasses	ANSI-approved safety boots	Plugs or muffs when using power tools
Handling NaOH	None	Chemical resistant apron or coveralls	ANSI-approved Hard Hat	Nitrile inner and outer gloves	Face shield in combination with ANSI-approved safety glasses	ANSI-approved safety boots	Plugs or muffs when using power tools

#### **Personal Protective Equipment Inspection and Care**

Inspection and care of PPE are covered in the ER Corporate SOP HS-24.

#### 6.8 Respiratory Protection Program

ER shall implement HS-26 Respiratory Protection Program for its employees and subcontractors and train them on its contents. The program will be administered by the HSO.

Respiratory protective equipment shall be NIOSH-Approved and use shall conform to OSHA 29 CFR Part 1910.134 Requirements. ER and subcontractors shall maintain a written respirator program detailing selection, use, cleaning, maintenance and storage of respiratory protective equipment.

#### **7.0 MEDICAL MONITORING REQUIREMENTS**





**7.1 Pre-Employment Medical Examination**

- a) Pre-employment medical examinations are required for persons working at hazardous waste sites.
- b) All examinations must be completed and documented prior to assignment to this site.
- c) All examinations will be conducted following parameters established by WorkCare™.

**7.2 Site Specific Medical Examination**

- a) Not applicable for this project.

**7.3 Annual Medical Examination**

The medical examination must have been within a 12-month period prior to on-site activity and repeated annually.

**7.4 Suspected Exposure Medical Examination**

- a) Following any suspected uncontrolled exposure to site contaminants, personnel should be scheduled for a special medical examination.
- b) The medical examination will be specific for the contaminants and the associated target organs or physiological system.
- c) Questions regarding the type of medical examination can be directed to ER's Vice President, Health and Safety.

**7.5 Contractor Physical Examination Requirements**

All subcontractors entering the contamination reduction or exclusion zone will have adequate medical surveillance satisfying 29 CFR 1910.120.10 (f).

**8.0 Health and Hazard Monitoring**

According to 29 CFR 1910.120 (h) Air Monitoring shall be used to identify and quantify airborne levels of hazardous substances and health hazards in order to determine the appropriate level of employee protection needed on-site. ER will maintain an air monitoring program to evaluate concentrations of specific chemical groups or contaminants in ambient air during work activities. This program will include both real-time, direct monitoring equipment, and chemical-specific personal air monitoring as appropriate.

Both area and personal monitoring will be conducted to document potential exposures to hazardous constituents, as well as to evaluate the adequacy of the Personal Protection Equipment (PPE) program.

**8.1 Routine Air Monitoring Requirements**

- Upon initial entry to rule out IDLH conditions
- When the possibility of an IDLH condition or flammable atmosphere has developed
- When work begins on a different portion of the site
- Contaminants other than those previously identified are being handled
- A different type of operation is initiated
- Employees are handling leaking drums or containers or working in areas with obvious liquid contamination
- During confined space work

Air monitoring will consist at a minimum of the criteria listed below. All air monitoring data will be documented and available in the command post site files for review by all interested persons. Air monitoring instruments will be calibrated and maintained in accordance with the manufacturer's specifications. Calibration and maintenance



performed will be entered in the site log and/or instrument log book. Area monitoring using the Data Ram 4, AreaREA and SKC will be conducted by URS.

## 8.2 Site Specific Air Monitoring Requirements

Health Hazard Monitoring:					
Real Time (Air, noise, heat, radiation, light)					
Activity	Target Analyte	Instrument	Frequency	Action Levels	Actions/Upgrade and Rationale
Heat Stress Monitoring	None	Thermometer	Per HS-17	Depending on work activity	Move to shaded area, drink water, loosen clothing, and monitor

## 8.3 Integrated Personnel Exposure Monitoring

Not anticipated for this project.

## 9.0 SITE CONTROL AND STANDARD OPERATING PROCEDURES

### 9.1 Work Zones

The primary purpose for site controls is to establish the work area perimeter, to minimize access by unauthorized persons. At the end of each workday, the site should be secured, to prevent unauthorized entry. Site work zones will include:

#### Clean Zone/Support Zone

This uncontaminated support zone or clean zone will be the area outside the exclusion and decontamination zones and within the geographic perimeters of the site. This area is used for staging of materials, parking of vehicles, office and laboratory facilities, sanitation facilities, and receipt of deliveries. Personnel entering this zone may include delivery personnel, visitors, security guards, etc., who will not necessarily be permitted in the exclusion zone. All personnel arriving in the support zone will upon arrival, report to the RM and sign the site entry/exit log.

#### Decontamination Zone

The decontamination zone will provide a location for removal of contaminated personal protective equipment and final decontamination of personnel and equipment. All personnel and equipment should exit via the decon area. A separate decontamination area will be established for heavy equipment.

1. The decontamination zone is a buffer zone between contaminated and clean areas.
2. Decon facilities are located at the portal and adjacent to the NaOH handling area. Heavy equipment decon will occur at the pond area\_\_\_\_\_

#### Exclusion Zone/Hot Zone

The exclusion zone will be the "hot-zone" or contaminated area inside the site perimeter. Entry to and exit from this zone will be made through a designated point and all personnel will be required to sign the hot zone entry/exit log located at the decon area. Appropriate warning signs to identify the exclusion zone should be posted (i.e. "DANGER - AUTHORIZED PERSONNEL ONLY", "PROTECTIVE EQUIPMENT REQUIRED BEYOND THIS POINT", etc.) Exit from the exclusion zone must be accompanied by personnel and equipment decontamination as described in Section 10.0.

1. Will be identified by the portal.
2. General Safety Rules for Exclusion Zone
  - a. wear the appropriate level of PPE defined in plan
  - b. do not remove any PPE or break the integrity to pick, scratch, or touch parts of your body



- c. no smoking, eating or drinking
- d. no horseplay
- e. no matches or lighters in this zone
- f. implement the communication and line of sight system
- g. entry restricted to Fronteir Environmental Services (FES) and DRMS personnel. ER personnel will only enter after having received training and escort by FES

## 9.2 General Field Safety Rules

- Horseplay is not permitted at any time.
- All visitors must be sent to the command post.
- It is ER policy to practice administrative hazard control for all site areas by restricting entrance to exclusion zones to essential personnel and by using operational SOPs.
- Whenever possible, avoid contact with contaminated (or potentially contaminated) surfaces. Walk around (not through) puddles and discolored surfaces. Do not kneel on the ground or set equipment on the ground. Stay away from any waste drums unless necessary. Protect equipment from contamination by bagging.
- Eating, drinking, or smoking is permitted only in designated areas in the support zone.
- Cell phone use is not allowed in EZ, unless authorized by Project HS Manager.
- Cell phone use while operating equipment is not allowed.
- Cell phone use while operating motor vehicles must comply with applicable DOT regulations
- Hands and face must be thoroughly washed upon leaving the decon area.
- Beards or other facial hair that interferes with respirator fit will preclude wearing a respirator.
- All equipment must be decontaminated or discarded upon exit from the exclusion zone.
- All personnel exiting the exclusion zone must go through the decontamination procedures described in Section 10.0.
- Safety Equipment described in Section 6.0 will be required for all field personnel.
- Personnel will only travel in vehicles where individual seats for each occupant are provided.
- Seat belts will be worn as required.
- Fire extinguishers will be available on site and in all areas with increased fire danger such as the refueling area.
- A minimum of two personnel will always be on site whenever heavy equipment is operated.
- Only necessary personnel need to be on or around heavy equipment.
- Employees will not interfere with or tamper in any way with air monitoring equipment.
- Backhoes or other equipment with booms shall not be operated within 10 feet of any electrical conductor.

### **Minimum Clearance from Energized Overhead Electric Lines**

<b>NOMINAL SYSTEM VOLTAGE</b>	<b>MINIMUM REQUIRED CLEARANCE</b>
0-50 kV	10 feet
51-100 kV	12 feet
101-200 kV	15 feet
201-300 kV	20 feet
301-500 kV	25 feet
501-750 kV	35 feet
751-1000 kV	45 feet



- Visitor log will be maintained at the command post or with the security guard. All personnel coming on site will sign in and out on a daily basis.
- Security will be maintained at the site by closing all gates during normal work hours. Site will be locked up in the evening.
- If unauthorized members of the public are found on site, contact RPM immediately and do not leave the individual unattended.
- Visitors are not allowed in the work areas without authorization. Visitors must sign in at the Command Post and receive authorization to enter the site.
- Buddy System
  - The buddy system is mandatory at anytime that personnel are working in the exclusion zone, remote areas, on tanks, or when conditions present a risk to personnel.
  - A buddy system requires at least two trained/experienced people who work as a team and maintain at a minimum audible and/or visual contact while operating in the exclusion zone.
- Communication Procedures
  - Radios will be used for onsite communications and Channel( Repeater) will be the designated channel.
  - The crews should remain in constant radio or visual contact while on site.
  - The site evacuation signal will be 3 blasts on the air or vehicle horn.

## 10.0 DECONTAMINATION PROCEDURES

In general, everything that enters the exclusion zone at this site must either be decontaminated or properly discarded upon exit from the exclusion zone. All personnel, including any state and local officials must enter and exit the hot zone through the decon area. Prior to demobilization, contaminated equipment will be decontaminated and inspected before it is moved into the clean zone. Any material that is generated by decontamination procedures will be stored in a designated area in the exclusion zone until disposal arrangements are made.

**NOTE:** The type of decontamination solution to be used is dependent on the type of chemical hazards. The decontamination solution for this site is **dry gross**.

### 10.1 Procedures for Equipment Decontamination

Following decontamination and prior to exit from the hot zone, the Project Superintendent shall be responsible for insuring that the item has been sufficiently decontaminated. This inspection shall be included in the site log.

Equipment decontamination will consist of the following steps: **Remove large deposits of mud and soil using sharp shooter and/or spud bar**

### 10.2 Procedure for Personnel Decontamination

The following describes the procedures necessary to ensure that both personnel and equipment are free from contamination when they leave the work site. Decontamination procedures will ensure that material which workers may have contacted in the hot, or exclusion zone do not result in personal exposure and are not spread to clean areas of the site. The sequence describes the general decontamination procedures. The RM and the HSO will ensure that the decontamination procedures are adequately implemented.

All personnel exiting the "HOT ZONE" (or "WARM ZONE" for decontamination line workers) will follow the decontamination procedures outlined below when leaving the zone. The control zones must be clearly established and discussed with all entry, rescue and decontamination workers prior to each and every site entry. All personnel will follow the preset traffic flow patterns when entering and exiting the hot zone.

Decontamination procedures are described below. All personnel exiting the hot zone will remove (doff) PPE in the order described below as they progress through the decontamination stations.



This decontamination procedure applies to personnel at this site wearing Level D protection. These are the minimum acceptable requirements.

- Station 1: Brush boots clean of soil prior to exiting property
- Station 2: Remove work gloves
- Station 3: Wash hands and face
- Station 4: Personnel will not wear or bring dirty/decontaminated clothing into the break areas.

Eating, drinking, chewing gum/tobacco, smoking, or any practice that increases the probability of hand to mouth transfer and/or ingestion of materials is prohibited in any areas where the possibility of contamination exists and is permitted only in the designated break area. Personnel will not wear or bring dirty/decontaminated clothing into the break areas.

### 10.3 Disposition of Decontamination Wastes

1. All equipment and solvents used for decontamination shall be decontaminated or disposed of with the established waste streams.

## 11.0 HAZARD COMMUNICATION PROGRAM

Each contractor will be responsible for maintaining a copy of their Hazardous Communication Program and MSDSs on site. The following items are specific to this job site:

### 11.1 Material Safety Data Sheets

1. Material Safety Data Sheets will be maintained at the Command Post in the Health and Safety Binder or be readily available via the internet.
2. MSDS' will be available to all employees for review during the work shift.
3. See Attachment C and/or the ER Health and Safety Binder. Will also be available on internet. Chemicals being brought to the site include NaOH, Chitosan and LBP flocculent and fuels

### 11.2 Container Labeling

1. All containers received on site will be inspected by the contractor using the material to ensure the following:
  - a. all containers clearly labeled
  - b. appropriate hazard warning
  - c. name and address of the manufacturer

### 11.3 Chemicals Brought to Site: (add as required)

1. Gasoline \_\_\_\_\_
2. Diesel Fuel \_\_\_\_\_
3. NaOH 25% soln \_\_\_\_\_
4. Brennfloc \_\_\_\_\_
5. PVC primer and cement \_\_\_\_\_

### 11.4 Employee Training and Information

1. Prior to starting work, each employee will attend a health and safety orientation and will receive information and training on the following:
  - a. an overview of the requirements contained in the Hazardous Communication Standard
  - b. Hazardous chemicals present at the site
  - c. the location and availability of the written Haz Com Program
  - d. physical and health effects of the hazardous chemicals



- e. methods of preventing or eliminating exposure
- f. emergency procedures to follow if exposed
- g. how to read labels and review MSDS' to obtain information
- h. location of MSDS file and location of hazardous chemical list

## 12.0 EMERGENCIES/INCIDENTS/INJURIES

It is essential that site personnel be prepared in the event of an emergency. Emergencies can take many forms; illnesses or injuries, chemical exposure, fires, explosions, spills, leaks, releases of harmful contaminants, or sudden changes in the weather. The following sections outline the general procedures for emergencies. Emergency information should be posted as appropriate.

### 12.1 Emergency Contacts for the Concord Chemical Site

Emergency Call List and Project Organization		
Service	Name/Organization	Emergency Phone
Fire	Silverton Volunteer Fire Dept	911
Police	San Juan County Sheriff	911
Sheriff	San Juan County Sheriff	911
Underground rescue	San Juan Mine Rescue	See Attachment C for call down list
*Hospital	Mercy Regional Hospital 1010 Three Springs Blvd Durango CO 81301	970 247 4311
*Occupational Medicine Clinic	Mosely Health Care Complex 700 N Henson St Lake City, CO 81235	911
Client Representative	Steve Way, USEPA R8 OSC	303-886-1636
ER Response Manager	Matt Francis	303 994 6611
ER Site Health and Safety Officer	Matt Francis	303 994 6611
ER Project HS Manager	Lonnie Wright	636-262-0862

NOTE: Maps and directions to the hospital will be posted in the site office trailer/pickup truck.

The following individuals have been trained in CPR and First Aid: Matt Francis

### 12.2 Additional Emergency Numbers

Poison Control Center	800-222-1222
National Response Center	800-424-8802
Center for Disease Control	404-488-4100 (24 hr)
AT&F (Explosives Information)	800-424-9555
Chemtrec	800-424-9300

### Environmental Restoration Contacts

Environmental Restoration	888-814-7477 (24 Hr.)
Environmental Restoration (St. Louis)	636-227-7477

### 12.3 Emergency Equipment Available On-Site

Communications Equipment	Location
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Public Telephones	County Building and lodging
Mobile Telephones	303 994 6611
Two-Way Radios	On site
Emergency Alarms/Horns	Vehicle Horns/Air Horn
Other:	Not Anticipated

Medical Equipment	Location
First Aid Kits	ER Vehicles /With Crews
Eye Wash Bottles/Station: (within 100 feet of hazard zone)	ER Vehicles / With Crews
Safety Shower	55 gal drum filled with fresh water at NaOH handling area, portal and base area

Fire Fighting Equipment	Location
Fire Extinguishers	ER Vehicles / FES Tool trailer

Spill or Leak Equipment	Location
Absorbent Boom/Pads:	Support Zone/Storage trailers
Dry Absorbent:	Support Zone/Storage trailers

#### 12.4 Incident Reporting/Investigations

- All incidents, including personal injury and property damage, must be reported to the RM, Supervisor, or SHSO **immediately**.
- The RM will contact the Project Health and Safety Manager by telephone immediately. The RM, SHSO, and effected employee(s) will conduct an immediate investigation of the incident and document all results on the Incident and Investigation Report form.
- The Response Manager will assign a supervisory individual to accompany all injured personnel to the clinic and follow guidelines outlined in the ER Return to Work Program.
- Copies of all Incident and Investigation Reports will be sent to the ER Vice President, Health and Safety.

### 13.0 **Emergency Response Contingency Plan**

#### 13.1 Project Personnel Responsibilities During Emergencies

As the administrator of the project, the RM has primary responsibility for responding to and correcting emergency situations. The RM will:

- Take appropriate measures to protect personnel including: withdrawal from the exclusion zone, total evacuation and securing of the site or up-grading or down- grading the level of protective clothing and respiratory protection.
- Take appropriate measures to protect the public and the environment including isolating and securing the site, preventing run-off to surface waters and ending or controlling the emergency to the extent possible.
- Ensure that appropriate Federal, State and local agencies are informed, and emergency response plans are coordinated. In the event of fire or explosion, the local fire department should be summoned immediately. In the event of an air release of toxic materials, the local authorities should be informed in order to assess the need for evacuation. In the event of a spill, sanitary districts and drinking water systems may need to be alerted.
- Ensure that appropriate decon treatment or testing for exposed or injured personnel is obtained.
- Determine the cause of the incident and make recommendations to prevent the recurrence.
- Ensure that all required reports have been prepared and submitted.



### 13.2 Medical Emergencies:

Any person who becomes ill or injured in the exclusion zone must be decontaminated to the maximum extent possible. If the injury or illness is minor, full decontamination should be completed and first aid administered prior to transport. If the patient's condition is serious, at least partial decontamination should be completed (i.e., complete disrobing of the victim and redressing in clean coveralls or wrapping in a blanket.) First aid should be administered while awaiting an ambulance or paramedics. All injuries and illnesses must immediately be reported to Corporate Health and Safety.

#### Onsite First Aid Support

Onsite medical support during project execution will be available from two or more individuals who are trained in First Aid and Cardiopulmonary Resuscitation (CPR) and blood borne pathogens. First aid kits shall be Type III, 16 unit kits, including one pocket mouthpiece or CPR barrier. Kits shall be checked prior to use, and at least weekly when work is in progress to ensure that contents are replaced as used.

#### Medical Transport of Employees and Case Management

For non-emergency injuries, a local clinic will be identified with the assistance of the Corporate Medical Consultant, WorkCare. WorkCare Incident Intervention (II) will be contacted immediately to establish a medical treatment plan prior to transporting the injured worker to the clinic. The WorkCare II consultant will attempt to contact the clinic ahead of the arrival of the patient to establish oversight of case management. Under no circumstances will an injured employee drive unescorted to a hospital, clinic, etc. An employee with minor injury may be transported by car after first aid treatment is given. The HSO or other project management personnel will transport the injured person to the facility. The employee who transports the injured person shall be trained in first aid and CPR whenever possible. When the injury is severe, or when in doubt concerning the severity of injury, the employee will be transported by ambulance.

Injured employees that require medical treatment or are taken to a doctor, hospital, clinic, etc., will not be allowed to resume work without a written return to work statement from the treating physician. This statement shall supply a medical diagnosis of the problem, the date of return to work, and work limitations. Should a return to work statement such as "light duty" be given, the treating physician will be contacted to determine the specific limitation. ER will make an assessment of work the employee normally performs whether or not the limitation interferes with the employee's normal work.

Whenever there are questions on the appropriateness of the diagnosis or prescribed course of treatment, WorkCare will be contacted to arrange for a second opinion. Copies of all Incident and Investigation Reports will be sent to the ER Vice President of Health and Safety.

### 13.3 Fire or Explosion:

In the event of a fire or explosion, the local fire department should be summoned immediately. Upon their arrival the RM or designated alternate will advise the fire commander of the location, nature and identification of the hazardous materials on-site.

If it is safe to do so, site personnel may:

- Use firefighting equipment available on site.
- Remove or isolate flammable or other hazardous materials which may contribute to the fire.

### 13.4 Spills, Leaks or Releases:

In the event of a spill or a leak, site personnel will:

- Locate the source of the spillage and stop the flow if it can be done safely.





- Begin containment and recovery of the spilled materials.

### 13.5 Evacuation Routes and Resources:

Evacuation routes and rally points have been established by work area locations for this site. This work area has only one exit down a steep rocky 4X4 road. The rally point is the equipment drop zone in Gladstone. Evacuation should be conducted immediately, with care taken to not cause additional hazard by recklessly proceeding down the 4X4 road.

Evacuation notification will be three blasts on an air horn, vehicle horn, or by verbal communication via radio.

- Keep upwind of smoke, vapors or spill location.
- The RM will conduct a head count to insure all personnel have been evacuated safely.
- In the event that emergency site evacuation is necessary, all personnel are to:
  1. Escape the emergency situation;
  2. Decontaminate to the maximum extent practical; and,
  3. Meet at the designated rally point in Gladstone



**ENVIRONMENTAL  
RESTORATION, LLC**

**ERRS REGION 8, CONTRACT EPS8 1302  
SITE HEALTH AND SAFETY PLAN  
GOLD KING SITE**

**ATTACHMENT A**

**SITE SAFETY PLAN AMENDMENTS**



**ENVIRONMENTAL  
RESTORATION, LLC**

**ERRS REGION 8, CONTRACT EPS8 1302  
SITE HEALTH AND SAFETY PLAN  
GOLD KING SITE**

**ATTACHMENT B**

**SITE MAPS**



**ENVIRONMENTAL  
RESTORATION, LLC**

**ERRS REGION 8, CONTRACT EPS8 1302  
SITE HEALTH AND SAFETY PLAN  
GOLD KING SITE**

**ATTACHMENT C**

**MINE RESCUE CALL DOWN LIST**

**C**



**ENVIRONMENTAL  
RESTORATION, LLC**

**ERRS REGION 8, CONTRACT EPS8 1302  
SITE HEALTH AND SAFETY PLAN  
GOLD KING SITE**

**ATTACHMENT Z**

**SITE SPECIFIC TRAINING RECORD**



SITE SPECIFIC TRAINING RECORD

This is to advise that \_\_\_\_\_ conducted a Site Specific Training Course  
(Instructor's name)  
for \_\_\_\_\_ at the  
(Company Name)  
\_\_\_\_\_ project on \_\_\_\_\_  
(TO #, Project Name) (Date)

The total duration of the instructions was \_\_\_\_\_ hours.

Instruction covered the topics checked off below:

- Site Location, Description and History ☐
- Potential site hazards (chemical, physical, and biological) ☐
- Chemical, physical, and toxicological properties of site contaminants ☐
- Safe work practices ☐
- Training requirements ☐
- Medical Surveillance ☐
- Control Zones ☐
- Monitoring ☐
- Selection, use, and limitation, of personal protective equipment ☐
- Personnel and equipment decontamination ☐
- Emergency response procedures ☐
- Hazard communication ☐
- Review of subcontractor H&S Plan ☐

The following participant attended the training course for the full duration indicated above.

\_\_\_\_\_  
Name (Print)

\_\_\_\_\_  
Signature